

ecology and environment, inc.

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International Specialists in the Environmental Sciences

MEMORANDUM

DATE:

July 16, 1985

TO:

John Osborn, FIT RPO, USEPA, Region X

FROM:

Paul Bulson, E&E, Seattle

THRU:

Dave Buecker, FIT RPM, E&E, Seattle

SUBJ:

Mastercraft Metal Finishing

HRS Score

REF:

TDD R10-8502-17

CC:

Jim Pankanin, USEPA, Region X

A HRS scoring of Mastercraft Metal Finishing resulted in a score of Sm=5.63. The low score is a result of lack of targets via surface and ground water and since neither have possible future use, the score is expected to remain the same. If Mastercraft's hazardous waste was properly stored, the containment score (#3) for S_{SW} and S_{QW} would be zero, thus Sm would equal zero. The score for Direct Contact = 41.67.

PB:jkb



Facility name: Mastercraft Metal Finishing
Location: Seattle, WA
EPA Region:
Person(s) in charge of the facility: Mike Kartes
Name of Reviewer: General description of the facility: Date: 5/10/86
(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)
Small Electroplating operation located
near Lake Union. Uses a variety of
heavy metals, solvents and acids.
Could Possible contaminate Lake Union
Which has recreation uses, but this is
doubtful. If the waste were properly
contained the site would have a Sm=0.
Scores: $S_M = 5$ ($S_{gw} = 6$ $S_{sw} = 944$ $S_a = 6$)
S _{FE} =

FIGURE 1 HRS COVER SHEET

				Ground Water Route Work Sheet				
		Rating Factor		Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)
	1	Observed Release		0 45	1	0	45	3.1
	***			n a score of 45, proceed to line 4. n a score of 0, proceed to line 2.				
	2	Route Characterist Depth*to Aquifer Concern		0 1 2 3	2	6	6	3.2
		Net Precipitation Permeability of to Unsaturated Zoo	he	0 1 2 3	1	0 m	3	
		Physical State		0 1 2 3	1	3	3	
	9,			Total Route Characteristics Score		12	15	
uled but	3	Containment		0 1 2 3	1	1	3	3.3
	4	Waste Characteris Toxicity/Persiste Hazardous Wast Quantity	ence	0 3 6 9 12 15 18 0 1 2 3 4 5 6 7 8	1 1	18	18 8	3.4
				Total Waste Characteristics Score		19	26	
	5	Targets Ground Water U Distance to Nea Well/Population Served	rest	0 1 2 3 0 4 6 8 10 12 16 18 20 24 30 32 35 40	3	0 0	9 40	3.5
				Total Targets Score		0	49	
	6			1 x 4 x 5 2 x 3 x 4 x 5		0	57,330	
	7	Divide line 6 b	y 57,330	and multiply by 100	Sgw=	0		

FIGURE 2 GROUND WATER ROUTE WORK SHEET

		Surface Water Route Work Shee	t			
	Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)
	1 Observed Release	6 - 45	1	0	45	4.1
		e is given a value of 45, proceed to line 4. e is given a value of 0, proceed to line 2.				
	Route Characterist		1	>	3	4.2
IMILE	Terrain 1-yr. 24-hr. Rainf Distance to Near		1 2	3	3 6	
LAICE	Water Physical State	0 1 2 3	1	3	3	
.1	4	Total Route Characteristics Score		11	15	
	3 Containment	0 (1) 2 (3	1	1	3	4.3
	Waste Characterist Toxicity/Persiste Hazardous Waste Quantity 5 during	once 0 3 6 9 12 15 18 0 1 2 3 4 5 6 7 8	1	18	18	4.4
	S darins	Total Waste Characteristics Score		19	26	
Recrection	Targets Surface Water U Distance to a Se	dad.	3 2	60	9	4.5
200 for	Population Serve to Water Intake Downstream	d/Distance 0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	24	40	
		Total Targets Score	c	30	55	
	-	multiply 1 x 4 x 5 ultiply 2 x 3 x 4 x 5		6270	64.350	
	7 Divide line 6 by	64,350 and multiply by 100	S _{SW} =	9.7	+	

FIGURE 7 SURFACE WATER ROUTE WORK SHEET

D. C. C.	Assigned Value	Multi-	0	Max.	Ref.
Rating Factor ·	(Circle One)	plier	Score	Score	(Section
Observed Release	0 45	1		45	5.1
Date and Location:					
Sampling Protocol:		120			
Waste Characteristics			y'a it		5.2
Reactivity and	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
Targets					5.3
Population Within	0 9 12 15 18	1		30	
	0 1 2 3	2		6	
Environment					
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
	Observed Release Date and Location: Sampling Protocol: If line 1 is 0, the Sa = If line 1 is 45, then protocol: Waste Characteristics Reactivity and Incompatibility Toxicity Hazardous Waste Quantity Targets Population Within 4-Mile Radius Distance to Sensitive	Observed Release Date and Location: Sampling Protocol: If line 1 is 0, the Sa = 0. Enter on line 5. If line 1 is 45, then proceed to line 2. Waste Characteristics Reactivity and 0 1 2 3 Incompatibility Toxicity 0 1 2 3 Hazardous Waste 0 1 2 3 4 5 6 7 8 Quantity Total Waste Characteristics Score Targets Population Within 4-Mile Radius Distance to Sensitive Environment	Observed Release 0 45 1 Date and Location: If line 1 is 0, the Sa = 0. Enter on line 5. If line 1 is 45, then proceed to line 2. Waste Characteristics Reactivity and 0 1 2 3 1 1 Incompatibility Toxicity 0 1 2 3 3 3 Hazardous Waste 0 1 2 3 4 5 6 7 8 1 Quantity Total Waste Characteristics Score Targets Population Within 4-Mile Radius 0 1 2 3 2 2 Environment	Observed Release Observed Rel	Colore One Diller Score

FIGURE 9 AIR ROUTE WORK SHEET

		,
	s	S ²
Groundwater Route Score (Sgw)	-	0.
Surface Water Route Score (S _{SW})	9.74	94.94
Air Route Score (Sa)	-0	0
$s_{gw}^2 + s_{sw}^2 + s_a^2$		94.94
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2}$		9.74
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2} / 1.73 = s_M =$		5.63

FIGURE 10
WORKSHEET FOR COMPUTING S_M

NA

		Fire	and	Ex	plos	sior	ı W	ork	SI	neet				
	Rating Factor		Ass (C	igne							Multi- plier	Score	Max. Score	Ref. (Section
1	Containment		1				3			***************************************	1		3	7.1
2	Waste Characteristics			, Care and		TOPE / COM			***				THE REAL PROPERTY.	7.2
	Direct Evidence	1)		3						1		3	
	Ignitability	(-							1		3	
	Reactivity		1		3						1		3	
	Incompatibility		1								1		3	
	Hazardous Waste Quantity	(1	2	3	4	5	6	7	8	1		8	
	ył .	Total Wa	aste	Cha	arac	teri	stic	s S	Sco	re	75		20	
3	Targets	25						23	3		- 5			7.3
	Distance to Nearest Population	C	1	2	3	4	5				1		5	
	Distance to Nearest Building	0	1	2	3						1		3	
	Distance to Sensitive Environment	0	1	2	3						1		3	
	Land Use	0	1	2	3						1		3	
	Population Within 2-Mile Radius	0	1	2	3	4	5				1		5	
	Buildings Within 2-Mile Radius	0	1	2	3	4	5				1		5	
		T	otal	Tar	gets	s Sc	core	,	-			70	24	
1														
4	Multiply 1 x 2 x 3]										13.7	1,440	
5	Divide line 4 by 1,440	and multip	ly b	y 10	00						SFE =			

FIGURE 11 FIRE AND EXPLOSION WORK SHEET

	,		Direc	ct Contac	t Work She	eet			
Ratin	g Factor	•		signed V Circle Or		Multi plier		Max. Score	Ref. (Section)
1 Obse	rved Inciden	t	0		45	1	0	45	8.1
If line		proceed to line	-						
2 Acce	ssibility		0	1 🙋 3		1	2	3	8.2
3 Conta	ainment Ac.	>	0	15		1	15	15	8.3
	e Characteris		0	1 2 3		5	15	15	8.4
1-N	ulation Within	n a	0		4 (5)	4	20	20	8.5
	ance to a tical Habitat		0	1 2 3		4	0	12	
			Tota	l Targets	Score		20	32	
6 If line		multiply 1 multiply 2 x	× 4	× 5	5		9000	21,600	
7 Divid	e line 6	y 21,600 and	multiply	by 100		SDC	41.	67	

FIGURE 12 DIRECT CONTACT WORK SHEET

Facility name: Master craft Metal Finishing
Location: Seattle, WA
EPA Region:
Person(s) in charge of the facility: Mike Kartes
Name of Reviewer: Date: Date:
(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)
Small Electroplating operation located
near Lake Union, bece a variety of
heavy metals, solvents and acide.
Could Possible contaminate Lake Union
Which has recreation uses, but this is
doubtful. Ix the waste were properly
contained the site would have a Sm =0.
Scores: S _M = 5,6(S _{gw} - S _{sw} = 944 S _a -)
S _{FE} = -
S _{DC} = 41.67

		Ground Water Route Work Sheet	t			
	Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)
1	Observed Release	0 45	1	0	45	3.1
		iven a score of 45, proceed to line 4. iven a score of 0, proceed to line 2.				,
2	Route Characteristics Depth to Aquifer of Concern	0 1 2 3	2	6	6	3.2
	Net Precipitation Permeability of the Unsaturated Zone	0 1 2 3	1	W C W	3	
	Physical State	0 1 2 3	1	-2	3	
7.		Total Route Characteristics Score		15	15	
3	Containment	0 1 2 3	1	1	3	3.3
4	Waste Characteristics Toxicity/Persistence Hazardous Waste Quantity	0 3 6 9 12 15 18 0 1 2 3 4 5 6 7 8	1	18	18 8	3.4
		Total Waste Characteristics Score		19	26	
5	Targets Ground Water Use Distance to Nearest Well/Population Served	0 1 2 3 0 4 6 8 10 12 16 18 20 24 30 32 35 40	3	0 0	9 40	3.5
		Total Targets Score		0	49	
6	If line 1 is 45, multi			0	57,330	
7	Divide line 6 by 57,	330 and multiply by 100	Sgw=	0		,

FIGURE 2 GROUND WATER ROUTE WORK SHEET

Sealed but to berm ?

		Surface Water Route Work Shee	t			
	Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)
	1 Observed Release	© - 45	. 1	0	45	4.1
		is given a value of 45, proceed to line 4. is given a value of 0, proceed to line 2.				
	Route Characteristic Facility, Slope and Terrain		1	2	3	4.2
I MILE	1-yr. 24-hr. Rainfal Distance to Neare		1 2	3	3 6	
	Physical State	0 1 2 3	1	3	3	
	į.	Total Route Characteristics Score		11	15	
	3 Containment	0 1 2 3	1	1	3	4.3
	Waste Characteristic Toxicity/Persister Hazardous Waste Quantity	0 3 6 9 12 15 18 0 1 2 3 4 5 6 7 8	1 1	18	18 8	4.4
	5 duns					
		Total Waste Characteristics Score		19	26	
2 ecrection	Distance to a Sen	- care is	3 2	60	9 6	4.5
2000 for	Environment Population Served to Water Intake Downstream	/Distance 0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	24	40	
		Total Targets Score	Ç	30	55	
		oultiply 1 x 4 x 5 oltiply 2 x 3 x 4 x 5		6270	64.350	
	Divide line 6 by	64,350 and multiply by 100	S _{SW} =	9.7	4	

FIGURE 7 SURFACE WATER ROUTE WORK SHEET

	Rating Factor ·	Assigned Value	Multi- plier	Score	Max. Score	Ref. (Section
1	Observed Release	0 /45	1		45	5.1
	Date and Location:	. /				
	Sampling Protocol:					
		0. Enter on line 5. ceed to line 2.				
2	Waste Characteristics Reactivity and	0 1 2 3	1		3	5.2
	Incompatibility Toxicity	0 1 2 3	3		9	
2	Hazardous Waste	0 1 2 3 4 5 6 7	8 1		8	
	Quantity					
3	Targets	Total Waste Characteristics Score			20	5.3
-	Population Within	0 9 12 15 18	1		30	5.3
	4-Mile Radius	J 21 24 27 30 0 1 2 3	2		6	
	4-Mile Radius Distance to Sensitive Environment	0 1 2 3	2		6	
	4-Mile Radius Distance to Sensitive		1		3	
	4-Mile Radius Distance to Sensitive Environment	0 1 2 3				
	4-Mile Radius Distance to Sensitive Environment	0 1 2 3				
	4-Mile Radius Distance to Sensitive Environment	0 1 2 3				

FIGURE 9 AIR ROUTE WORK SHEET

	S	s ²
Groundwater Route Score (Sgw)		
Surface Water Route Score (S _{SW})	9.74	94.94 .
Air Route Score (Sa)	-0	-
$s_{gw}^2 + s_{sw}^2 + s_a^2$		94.94
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2}$.		9.74
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2} / 1.73 = s_M =$		5.63

FIGURE 10
WORKSHEET FOR COMPUTING S_M

NA

	Fire	and		plos	sior	ı W	ork	She	et				
Rating Factor							Multi- plier	Score	Max. Score	Ref. (Section)			
Containment	1				-	3				1		3	7.1
Waste Characteristics Direct Evidence Ignitability Reactivity Incompatibility Hazardous Waste Quantity	0	1 1 1 1	2	3 3 3 3 3	4	5	6	7	8	1 1 1 1 1		3 3 3 3 8	7.2
:- ;	Total Was	ite (Cha	rac	teri	stic	s S	core				20	
Targets Distance to Nearest	0	1	2	3	4	5				1	,	5	7.3
Population Distance to Nearest	0	1	2	3						1		3	
Building Distance to Sensitive Environment	0	1	2	3						1		3	
Land Use	0	1	2	3	4	c				1		3	
Population Within 2-Mile Radius						5						5	
Buildings Within 2-Mile Radius		1	2	3	4	5				1		5	
	To	al 1	Targ	jets	Sc Sc	ore						24	
4 Multiply * x 2 x 3						,	1,440						
5 Divide line 4 by 1,440	and multiply	by	10	0					5	FE =			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

	Direct Cor	ntact Work Shee	et			
Rating Factor	Assigne (Circle	Multi- plier	Score	Max. Score	Ref. (Section)	
1 Observed Incident	0	45	1	0	45	8.1
If line 1 is 45, proceed to						
2 Accessibility	0 1 🙆	3	1	2	3	8.2
3 Containment Acip	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2	3	5	15	15	8.4
Targets Population Within a 1-Mile Radius	0 1 2	3 4 (5)	4	20	20	8.5
Distance to a Critical Habitat	1 2	3	4	0	12	
	Total Targ	gets Score		20	32	
6 If line 1 is 45, multiply If line 1 is 0, multiply 2		x 5		9000	21,600	
7 Divide line 6 by 21,600 a	nd multiply by 1	00	SDC =	41.	67	

FIGURE 12 DIRECT CONTACT WORK SHEET